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ENVIRONMENTAL IMPACT STATEMENT

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Pursuant to: Montana Environmental Policy Act
Section 69-6504 (b) (3)

and

The National Environmental Policy Act of 1969

Project No. FG-12

Makoshika State Park

April 14, 1972

Prepared by

Montana Fish and Game Department
Recreation and Parks Division
Helena, Montana

MONTANA FISH AND GAME DEPARTMENT

MAKOSHIKA STATE PARK

ENVIRONMENTAL IMPACT REPORT

I. PURPOSE

The developments for Makoshika State Park are to improve a portion of the access road, construct a parking area for the convenience of visitors and construct a short nature trail with interpretive displays.

II. DESCRIPTION OF PROJECT

Makoshika is a Sioux word meaning "bad earth" or "badlands". Over the centuries wind, water, heat and cold have formed a weirdly attractive region of twisted knolls, grotesque carvings, and shapes, columns of sandstone capped with teetering rocks along with grassy slopes and pine-edged hills.

The site is located three miles southeast of Glendive in Dawson County. Improvements planned for the area include 2647 feet of reconstruction on the interior road. This reconstruction involves a portion of the road known as the "switchbacks." At this point the road rises abruptly a vertical distance of approximately 300 feet via the switchbacks from the narrow canyon to the top of the badlands area. This section of road will be reconstructed and given an asphalt surface treatment. At the bottom of the hill, a paved parking area containing 17,680 square feet will be constructed adjacent to the road for the convenience of travelers who may wish to park their trailers and not take them through the tour of the badlands. A double latrine will be constructed adjacent to the parking area. At one of the overlook sites, a short nature trail will be constructed along with interpretive displays which will provide archaeological and historic information on the badlands area.

The park area, containing some 800 acres, has many scenic points where one can look down over a vast wasteland with colors of somber dusty tan, the yellows, reds, and deeper purple tones spotted here and there with green juniper clumps. It is a stark land but not without its own beauty and attractiveness.

III. DESCRIPTION OF EXISTING ENVIRONMENT

A. Human Resources

The project is located in Dawson County which has a population of 11,269. The city of Glendive is located three miles to the northwest and has a population of 6,305. The immediate area within the park boundaries and adjacent to the park contains only one dwelling which is used occasionally during the summer months.

Interstate Highway 94 passes through Glendive and carries a heavy load of tourist traffic during the summer months. Makoshika State Park is well known in eastern Montana and many tourists as well as Montana residents visit the area each year.

B. Physiography and Geology

The park site has deep washouts of vari-colored clays and shales with eroded rocks and cliffs. Wind and water erosion has created grotesque rocks and spires of shale and sandstone. The interior road is constructed on top of a flat mesa that is cut by the deep canyons and washouts. Scenic views and vistas may be had from several lookout points along the road system.

Some eons ago the earth's crust buckled, upheaving strata of sedimentary rock that had been laid down over 100 million years ago. Present day erosion with wind, rain, sun and temperature extremes doing the work day by day, year by year is slowly altering the landscape. Most of Makoshika exposes what is known as the Hell Creek (or Lance) formation... hundreds of feet-thick deposits of sand and shale accumulated during the Cretaceous Period of the Mesozoic era.

The area is rich in archaeological features such as petrified figs, dinosaur and crocodile teeth, vertebrae of fish and dinosaurs as well as fossilized skins from various prehistoric animals.

C. Land Use

In 1953 Dawson County gave the State Parks Division 160 acres for recreation purposes in Makoshika State Park. In 1958 an additional 624 acres of ground were obtained by lease from the Bureau of Land Management. Since that time this acreage within the project has been used for recreational purposes. Interior roads have been built, scenic viewpoints have been established and picnic and camping facilities installed.

The area is not fenced and on occasion there has been some indiscriminate grazing by cattle that wander in from adjacent private lands or county lands.

Within the boundaries of the park area, and adjacent to one of the vista points, there are some ten radio towers, TV towers, and shortwave broadcasting towers. The land for these towers was leased out by the Bureau of Land Management prior to the time it was obtained by the State Parks Division for recreation purposes.

D. Fish and Wildlife

There are no bodies of water in the project site and there would be no harm or damage to any fishing resource.

A few mule deer may be spotted in the early morning or late evening and an occasional antelope may be seen. Visitors to the area are always interested in spotting these animals whenever they are visible.

E. Vegetative Resources

This is a harsh land. Much of it is washed or eroded and has little or no vegetation. Where erosion has not occurred, there are native grasses and forbs along with scrub pine and juniper. Some juniper have been observed growing directly out of the sandstone formations.

F. Climate

The climate of the project site is typical of eastern Montana with hot days during the summer months and cold days in the winter. The temperature may range from -30 degrees on some winter days to 105 on a summer day in July or August. Average annual rainfall will be about 12 inches. Cloudbursts and heavy thundershowers occur which contribute to the erosion process.

G. Transportation Systems

There are no railroads or highway systems within the project area.

H. Utility Systems

There is a 7200 volt transmission line that carries both power and telephone lines (ten wires) from Glendive to the radio and TV towers within the project site. The line continues to other towers south of the project and then terminates.

There are no other utilities in the project.

IV. EVALUATION OF ENVIRONMENTAL IMPACT

As stated above the project consists basically of three main objectives:

1. To improve the access to the area.

2. To provide interpretive exhibits at one of the vistas, to enhance enjoyment of the site by the visiting public through a better understanding of the forces which created the badlands features.

3. To provide support facilities such as parking areas and restrooms for the convenience of the park user and for the protection of the park environment.

The impact of each of these actions is listed below:

1. Access Road.

The present entrance road provides only dry weather access for conventional vehicles. In the area of the "switchbacks" it is extremely muddy and slippery when wet, and subject to severe water erosion. Grades range up to 20 percent and the sharp "hairpin" turns make the road dangerous to drive even when dry. The proposed improvements to the road will provide surfacing which will permit all weather travel and will ease the worst grades and tight curves along this one-half mile stretch of road. Much of the road will follow the old alignment. Where it does not, the new road will still be very near the old one and will take advantage of some cuts and fills already present. In this way construction scars will be minimized and will not significantly alter the land form or intrude any further upon the scenic vistas.

In this type of terrain vegetation is very sparse on the slopes. Ground cover including trees, shrubs, and grasses will be little damaged by construction which is off the old alignment.

Backslopes from new cuts and fills will be as flat as practicable and will be blended into the natural terrain where possible.

There will definitely be some erosion, siltation, and alteration of surface water runoff patterns in the vicinity of the road as a result of this construction. However, these problems will be controlled. Borrow ditches will be lined with 12 inch-minus gravel to retard erosion on the right of way. Ditch blocks will be used to reduce the water velocity. Water collected in the borrow ditches will be diverted to natural drainage areas which will be protected by rock near the culvert outlets.

The driving surface will be paved to provide a firm all weather base to retard erosion.

It should be remembered that Makoshika State Park is an erosional feature and that our objective will be to control man made erosion but not to interfere with natural action.

Because of the nature of the material, there is a danger that later on some small slumps and slides will occur within the construction limits. This danger will be minimized by keeping cuts and fills shallow and with flat backslopes. Proper handling of runoff to prevent saturation of fills will also be important in minimizing this hazard.

All of the above mentioned undesirable impacts are present as a result of the existing road. This road project will help to either minimize or correct these problems.

2. Interpretive Exhibits and Trails.

This work is considered to have negligible environmental impact.

The exhibits themselves will be mounted on low profile landscape stone which will be designed to blend into the terrain.

The trail construction will consist of definition and gravel surfacing where necessary, and will follow natural access down slopes and in the bottoms of drainages.

In this area vegetation is quite sparse. The interpretive devices will be directing attention to geological features. Public use in the Cap Rock area should not significantly alter the natural environment.

3. Parking Areas and Restrooms.

Along the entrance road in the canyon about one mile before one reaches the swithbacks, there is an area which is presently being used for overnight camping. This is an ideal location for this activity and also a good place to encourage drivers of towing units to unhook their trailers before proceeding up the steep road ahead.

Work in this site will consist of constructing a paved parking area and a restroom facility. This not only fits into the long range proposed development of the whole area, but will also correct existing sanitation and erosional problems.

The restroom will be a sealed vault latrine which will not allow effluents to be discharged into the ground. Maintenance on this facility will consist of pumping when needed, with the sewage disposed of in a legal manner off the site.

The parking area will be constructed to conform to the natural terrain. Cuts and fills will be insignificant.

While both of these facilities will be constructed in the bottom of the canyon where flash flooding is likely to occur, they will be situated on a low terrace well back from the bottom of the drainage. These features will not interfere with the natural runoff and we do not anticipate that erosion will endanger the facilities.

The terrace is high enough so that the public will not be endangered by flash flooding during times of heavy rain.

The major elements of this project will improve conditions to further protect the public health and safety.

B. Adverse Environmental Effects Which Cannot Be Avoided

The project is considered to have a minimum of adverse environmental effects.

C. Alternatives

An alternative to the proposed project would be to eliminate all construction and not make the proposed improvements to this portion of the interior road. This alternative would have the effect of discouraging visitors to this scenic badlands area. In addition, the present erosion problem on the switchback area would continue to exist and present a hazard to vehicular traffic. The project is intended to correct this situation.

D. Short Term--Long Term Use

During the construction period there will be some environmental intrusions on the site. Construction equipment will be present, there will be some dust on the road and parking area construction and construction materials will be stacked as necessary for the installation of the facilities.

It is anticipated that these intrusions will be of minor nature and relatively short duration.

E. Irreversible and Irretrievable Commitment of Resources

The road work proposed in the project will be a re-construction of an existing road. There will be no change in the resources as a result of this construction. The parking area construction will commit less than one-half an acre for this purpose. The foot trail construction will have no adverse effects on the resources.

F. Discussion of Problems and Objections by Other Agencies and the Public

The people of Glendive, including the Chamber of Commerce and legislators, have expressed considerable interest and approval in the road improvements planned. The project will solve a problem that has been an aggravation to the residents of the Glendive area as well as visitors from out of state.

V. BENEFITS

The improvements planned for the project will make the access to Makoshika State Park much easier and will provide a convenient trailer parking area for visitors. The foot trail and interpretive exhibits will be informative and educational. The improvements to the switchbacks on the access road will also improve an erosion problem that currently exists.

VI. SUMMARY STATEMENT

The analysis of the environmental impacts on the developments planned for Makoshika State Park indicate that they will be beneficial and help to create a better resource for the public. The visitor will have a better understanding of the archaeological and geological features of the badlands and will appreciate the improved access to the area.